Emission credits (kg) = (STD − FEL) × (Volume) × (Power) × (UL) × (LF) × (10^{-3})

Where:

STD = the emission standard, in g/kW-hr.
FEL = the family emission limit for the family, in g/kW-hr.
Volume = the number of engines eligible to participate in the averaging, banking, and trading program within the given family during the model year, as described in §1045.701(j).
Power = maximum engine power for the family, in kilowatts (*see* §1045.140).
UL = The useful life for the given family.
LF = load factor. Use 0.207. We may specify a different load factor if we approve the use of special test procedures for an engine family under 40 CFR 1065.10(c)(2), consistent with good engineering judgment.

(b) [Reserved]

[73 FR 59194, Oct. 8, 2008, as amended at 75 FR 23020, Apr. 30, 2010]

§1045.706 How do I generate and calculate evaporative emission credits?

The provisions of this section apply for calculating evaporative emission credits. This applies only for fuel tank permeation. You may generate credits only if you are a certifying vessel manufacturer. This may include outboard engine manufacturers if they install under-cowl fuel tanks.

(a) For each participating vessel, calculate positive or negative emission credits relative to the otherwise applicable emission standard. Calculate positive emission credits for a family that has an FEL below the standard. Calculate negative emission credits for a family that has an FEL above the standard. Sum your positive and negative credits for the model year before rounding. Round the sum of emission credits to the nearest kilogram (kg) using consistent units throughout the following equation:

Emission credits (kg) = (STD − FEL) × (Total Area) × (UL) × (AF) × (365) × (10^{-3})

Where:

STD = the emission standard, in g/m^2/day.
FEL = the family emission limit for the family, in g/m^2/day, as described in paragraph (b) of this section.
Total Area = The combined internal surface area of all fuel tanks in the family, in m^2.
UL = 5 years, which represents the useful life for the given family.
AF = adjustment factor. Use 1.0 for fuel tank testing performed at 28 °C and 0.60 for testing performed at 40 °C.

(b) For calculating credits under paragraph (a) of this section, the emission standard and FEL must both be based on test measurements at the same temperature (28 ° or 40 °C). Determine the FEL for calculating emission credits (relative to testing at 28 °C) as follows:

(1) To use an FEL below 5.0 g/m^2/day, it must be based on emission measurements.

(2) The provisions of this paragraph (b)(2) apply for all emission families with FELs at or above 5.0 g/m^2/day. To calculate emission credits for such emission families, you must choose from one of the following options and apply it to all your emission families with FELs at or above 5.0 g/m^2/day:

(i) Option 1: Establish all your FELs based on emission measurements. This may include measurements from a certifying fuel tank manufacturer.

(ii) Option 2: Use an assigned FEL of 10.4 g/m^2/day. This would apply without regard to whether any of these emission families have measured emission levels below 10.4 g/m^2/day. If any of your fuel tanks were otherwise certified (by you or the fuel tank manufacturer) with an FEL between 5.0 and 10.4 g/m^2/day, the assigned FEL of 10.4 g/m^2/day applies only for emission credit calculations.

§1045.710 How do I average emission credits?

(a) Averaging is the exchange of emission credits among your families. You may average emission credits only within the same averaging set.

(b) You may certify one or more families to an FEL above the emission standard, subject to the FEL caps and other provisions in subpart B of this part, if you show in your application for certification that your projected balance of all emission-credit transactions in that model year is greater than or equal to zero.

(c) If you certify a family to an FEL that exceeds the otherwise applicable standard, you must obtain enough emission credits to offset the family's